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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,125	11/21/2003	Max XIE	00173.0044.PCUS00	1124
28694	7590	11/17/2004	EXAMINER	
TRACY W. DRUCE, ESQ. NANCY DRUCE LLP 1615 L STREET NW SUITE 850 WASHINGTON, DC 20036			WALBERG, TERESA J	
			ART UNIT	PAPER NUMBER
			3742	
DATE MAILED: 11/17/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/707,125	XIE, MAX	
	Examiner	Art Unit	
	Teresa J. Walberg	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/21/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Fig. 2 must be labeled "Prior Art". Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Rich (3,443,548).

Rich discloses (see Figs. 1 and 4) a pipe connection for a heat exchanger (1) having the claimed structure including two substantially concentrically oriented conduits (11, 24) defining two flow channels, one of the flow channels configured as an annulus about the other (see Fig. 1), at least one of the conduits having a deformable section (28) for absorbing thermal and mechanical loading in both axial and radial directions when installed in a heat exchanger in startup mode.

With respect to claim 18, the deformable section (28) is configured as bellows corrugations (see Fig. 1).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4-9, 12, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art in view of Rich (3,443,548).

The Admitted Prior Art in paragraphs 0005 to 0008 and Fig. 2 discloses a pipe connection for a heat exchanger having all of the claimed structure except the inlet pipe joint including a deformable pipe section to absorb thermal and mechanical loading.

Rich discloses (see Figs. 1 and 4) a deformable pipe section for a pipe connection of a heat exchanger (1) having the claimed structure including two substantially concentrically oriented conduits (11, 24) defining two flow channels, one of the flow channels configured as an annulus about the other (see Fig. 1), at least one of the conduits having a deformable first pipe section (28) with a corrugated cross section for absorbing thermal and mechanical loading in both axial and radial directions.

With respect to claim 4, Rich shows the deformable pipe section having a material thickness that is less than the thickness of the second pipe section (see Fig. 4).

It would have been obvious in view of Rich to use a deformable pipe section with the heat exchanger pipe connection of the Admitted Prior Art to protect the pipe connection against damage.

6. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art in view of Rich (3,443,548) as applied to claims 1, 2, 4-9, 12, and 14-16 and further in view of Villiger (2,468,903).

The Admitted Prior Art in view of Rich discloses the claimed structure with the exception of the deformable pipe section having an inner diameter corresponding to the smallest diameter of the corrugated section equal to the inner diameter of the adjoining second section.

Villiger teaches using a corrugated pipe section (28 or 29) having an inner diameter equal to the adjoining pipe section.

It would have been obvious in view of Villiger to provide the corrugated section with an inner diameter equal to the adjoining pipe section in the pipe connection of the Admitted Prior Art in view of Rich to enable smoother flow of fluid through the pipe.

7. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art in view of Rich (3,443,548) as applied to claims 1, 2, 4-9, 12, and 14-16 and further in view of Creek (3,850,231).

The Admitted Prior Art in view of Rich discloses the claimed structure with the exception of the deformable pipe section being attached to the conical pipe section (i.e. to the inner pipe).

Creek teaches providing a corrugated pipe section (80 in Fig. 2) on the inner pipe of a pipe joint.

It would have been obvious in view of Creek to provide the deformable pipe section being attached to the conical pipe section (i.e. to the inner pipe) in the pipe connection of the Admitted Prior Art in view of Rich to better prevent damage to the inner pipe.

Note that the reference to upstream and downstream direction of flow through the pipe and corrugated section is interpreted to be merely a direction of fluid flow through the same structure and thus is not deemed to result in a structural difference.

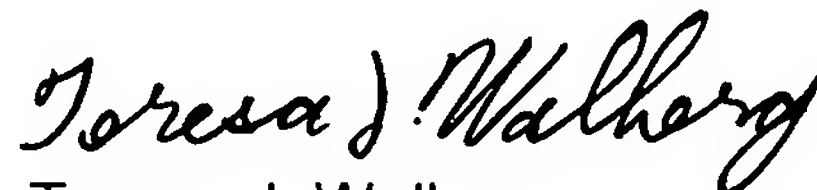
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Blomgren, Maus et al, Wanni et al, and Nakamura et al are cited to show pipe joints with corrugated sections.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 703-308-1327. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 703-305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Teresa J. Walberg
Primary Examiner
Art Unit 3742

tjw